University of Alberta Library
0 1620 3415549 7

...nd teacher: Use this cover sheet for mailing or faxing.

ASSIGNMENT BOOKLET
SCN2242 Chemistry 20
Module 1 Assignment

FOR STUDENT USE ONLY	
Date Assignment Submitted: _____	(If label is missing or incorrect) Student File Number: _____
Time Spent on Assignment: _____	Module Number: _____

FOR OFFICE USE ONLY

Assigned Teacher: _____

Assignment Grading: _____

Graded by: _____

Date Assignment Received:

Student's Questions and Comments

Apply Module Label Here

Name
Address
Postal Code

Please verify that preprinted label is for correct course and module.

Teacher's Comments

_____
Teacher

INSTRUCTIONS FOR SUBMITTING THIS DISTRIBUTED LEARNING ASSIGNMENT BOOKLET

When you are registered for distributed learning courses, you are expected to regularly submit completed assignments for correction. Try to submit each Assignment Booklet as soon as you complete it. Do not submit more than one Assignment Booklet in one subject at the same time. Before submitting your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to ensure accuracy in spelling and details?
- Is the booklet cover filled out and the correct module label attached?

MAILING

1. Do **not** enclose letters with your Assignment Booklets. **Send all letters in a separate envelope.**

2. Put your Assignment Booklet in an envelope and take it to the post office and have it weighed. Attach **sufficient postage** and seal the envelope.

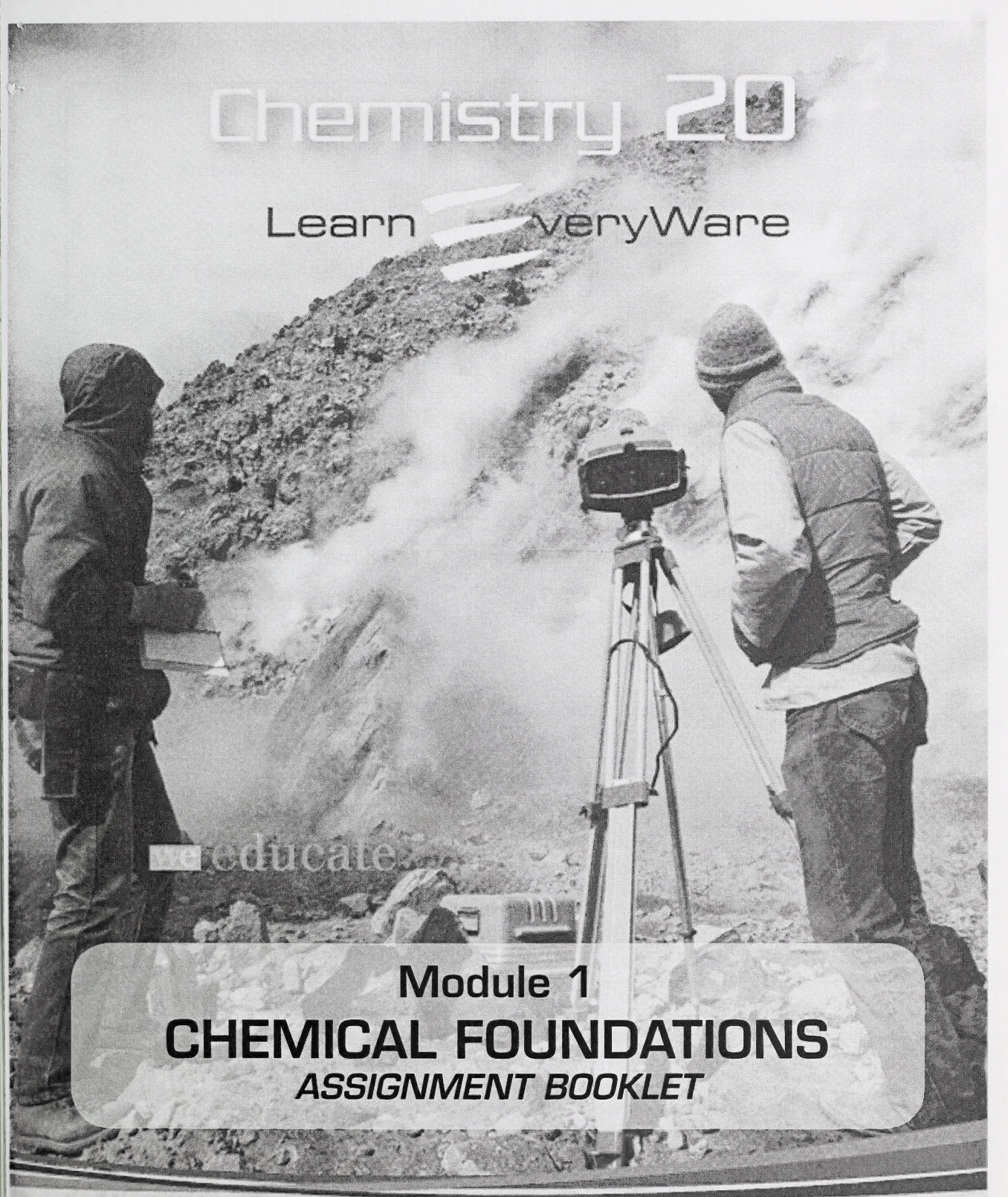
FAXING

1. Assignment Booklets may be faxed to the school with which you are registered. Contact your teacher for the appropriate fax number.

2. All faxing costs are the responsibility of the sender.

E-MAILING

It may be possible to e-mail your completed Assignment Booklet to the school with which you are registered. You also may be **required** to e-mail some of your assignments. Contact your teacher for the appropriate e-mail address.



Module 1

CHEMICAL FOUNDATIONS

ASSIGNMENT BOOKLET

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Lesson 2 Assignment	60	
Lesson 3 Assignment	50	
Lesson 4 Assignment	22	

Teacher's Comments

Chemistry 20
Module 1: Chemical Foundations
Assignment Booklet
ISBN 978-0-7741-2995-4

Cover Art: © Photodisc/Getty Images

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	
General Public	
Other	

You may find the following Internet sites useful:

- Alberta Education, **http://www.education.gov.ab.ca**
- Learning Resources Centre, **http://www.lrc.education.gov.ab.ca**
- Tools4Teachers, **http://www.tools4teachers.ca**

Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

Copyright © 2008, Alberta Education. This resource is owned by the Crown in Right of Alberta, as represented by the Minister of Education, Alberta Education, 10155 – 102 Street, Edmonton, Alberta, Canada T5J 4L5. All rights reserved.

This courseware was developed by or for Alberta Education. Third-party content has been identified by a © symbol and/or a credit to the source and must be used as is. This courseware may be reproduced in any form, including photocopying, without the written permission of Alberta Education. Changes can be made only to content owned by Alberta Education. For more detailed information, refer to the Terms of Use Agreement. Every effort has been made to acknowledge the original source and to comply with Canadian copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Education so corrective action can be taken.

THIS COURSEWARE IS NOT SUBJECT TO THE TERMS OF A LICENCE FROM A COLLECTIVE OR LICENSING BODY, SUCH AS ACCESS COPYRIGHT.

UNIVERSITY LIBRARY

MODULE 1: LESSON 2 ASSIGNMENT

This Module 1: Lesson 2 Assignment is worth 60 marks. The value of each assignment and each question is stated in the left margin.

(60 Marks) **Lesson 2 Assignment: Elements and Ions**

(4 marks) 1. Write the symbol corresponding to each of the following theoretical descriptions.

	a. 8 protons and 10 electrons
	b. 18 electrons and a net charge of 3^+
	c. 2 electrons and 2 protons
	d. 33 protons and 3 extra electrons

(1 mark) 2. Cesium, mercury, and radium are examples of

A. metals
B. non-metals
C. semi-metals
D. compounds

(1 mark) 3. Neon, argon, and krypton are part of a group of elements called

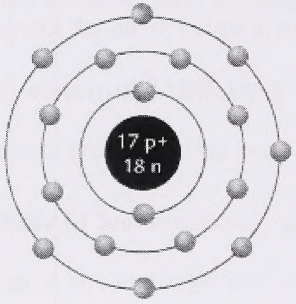
A. alkali metals
B. noble gases
C. halogens
D. alkaline-earth metals

(4 marks) 4. Match each scientist with his key contribution to the study of the atom.

a. Dalton
b. Thomson
c. Rutherford
d. Bohr

_____ ▪ billiard-ball model
_____ ▪ Salt concentration in soil is a biotic factor for seed germination.
_____ ▪ A low concentration of salt does not affect bean seed germination.
_____ ▪ A high concentration of salt affects bean seed germination more than it affects sunflower seed germination.

Use the following diagram to answer questions 5 to 7.



(1 mark) 5. What is the atomic number of the element?

A. 17
B. 18
C. 35
D. 36

(1 mark) 6. What is the atomic mass of the element? Express your answer to two decimal places.

(1 mark) 7. Which element is it?

A. argon
B. bromine
C. chlorine
D. magnesium

(9 marks) 8. Draw condensed versions of the following ions.

a. fluoride ion

b. calcium ion

c. nitride ion

(16 marks) 9. Complete the following table.

Atom or Ion Name	Symbol	Number of Protons	Number of Electrons	Charge	Number of Electrons Lost or Gained
		56	54		
	Cs^+				lost 1
		34		2–	
cadmium ion			46		

MODULE 1: LESSON 3 ASSIGNMENT

This Module 1: Lesson 3 Assignment is worth 50 marks. The value of each assignment and each question is stated in the left margin.

(50 Marks)

Lesson 3 Assignment: Ionic Compounds

(30 marks) 1. Fill in the table with the required information. The first one is done for you.

Atoms Combined	Formula of Ions Involved	Chemical Formula	Name of Compound
Na and Cl	Na^+ and Cl^-	NaCl	sodium chloride
Ca and Cl			
K and Br			
	Fe^{3+} and OH^-		
			aluminium sulfide
			nickel(II) cyanide
		$Ga_2(SO_4)_3 \cdot 18H_2O$	
		Cu_3N_2	
	Mg^{2+} and O^{2-}		
Al and O			
		$AuBO_3$	

(20 marks) 2. Complete the following table.

Element	Electro-negativity	Group Number	Number of Valence Electrons	Number of Bonding Electrons	Number of Lone Pairs of Electrons
	1.3		2		
	3.2				
	1.6	13			
	0.9	1			
	1.9			4	
	2.2		1		

MODULE 1: LESSON 4 ASSIGNMENT

This Module 1: Lesson 4 Assignment is worth 22 marks. The value of each assignment and each question is stated in the left margin.

(22 Marks) **Lesson 4 Assignment: Molecular Elements and Compounds**

(6 marks) 1. Provide the name for each of the following compounds.

	a. $CO_2(g)$
	b. $NH_3(g)$
	c. $P_4O_6(s)$
	d. $Cl_2(g)$
	e. $H_2O_2(l)$
	f. $NI_3(s)$

(6 marks) 2. Provide the correct chemical formula for each of the following compounds.

	a. bromine
	b. sulfur trioxide
	c. sulfur
	d. methanol
	e. phosphorus
	f. sucrose

(10 marks) 3. Use the periodic table to calculate the electronegativity difference for each pair of elements. Determine whether each compound is non-polar covalent, polar covalent, or ionic.

a. the bond between Mg and F atoms in MgF_2

b. the bond between H and S atoms in H_2S

c. the bond between Al and O atoms in Al_2O_3

d. the bond between Br atoms in Br_2

e. the bond between N and H atoms in NH_3

Once you have completed all of the questions, submit your work to your teacher.

© 2008